INSTAGRAM USER ANALYTICS

PROJECT

A) Marketing Analysis:

Loyal User Reward: The marketing team wants to reward the most loyal users, i.e., those who have been using the platform for the longest time.

Your Task: Identify the five oldest users on Instagram from the provided database.

INPUT QUERIES:

```
select * from users
order by created_at asc
limit 5
```

OUTPUT:

id	username	created_at
80	Darby_Herzog	2016-05-06 00:14:21
67	Emilio_Bernier52	2016-05-06 13:04:30
63	Elenor88	2016-05-08 01:30:41
95	Nicole71	2016-05-09 17:30:22
38	Jordyn.Jacobson2	2016-05-14 07:56:26
NULL	NULL	NULL

Inactive User Engagement: The team wants to encourage inactive users to start posting by sending them promotional emails.

Your Task: Identify users who have never posted a single photo on Instagram

INPUT QUERIES:

```
Select * from users as a
left join photos as b on
a.id=b.user_id and
b.user_id is nullfollows
```

OUTPUT:

id	username	created_at	id	image_url	user_id	created_dat
1	Kenton_Kirlin	2017-02-16 18:22:11	NULL	NULL	NULL	NULL
2	Andre_Purdy85	2017-04-02 17:11:21	NULL	NULL	NULL	NULL
3	Harley_Lind18	2017-02-21 11:12:33	NULL	NULL	NULL	NULL
4	Arely_Bogan63	2016-08-13 01:28:43	NULL	NULL	NULL	NULL
5	Aniya_Hackett	2016-12-07 01:04:39	NULL	NULL	NULL	NULL
6	Travon.Waters	2017-04-30 13:26:14	NULL	NULL	NULL	NULL
7	Kasandra_Homenick	2016-12-12 06:50:08	NULL	NULL	NULL	NULL
8	Tabitha_Schamberger11	2016-08-20 02:19:46	NULL	NULL	NULL	NULL
9	Gus93	2016-06-24 19:36:31	NULL	NULL	NULL	NULL
10	Presley_McClure	2016-08-07 16:25:49	NULL	NULL	NULL	NULL
11	Justina.Gaylord27	2017-05-04 16:32:16	NULL	NULL	NULL	NULL
12	Dereck65	2017-01-19 01:34:14	NULL	NULL	NULL	NULL
13	Alexandro35	2017-03-29 17:09:02	NULL	NULL	NULL	NULL
14	Jaclyn81	2017-02-06 23:29:16	NULL	NULL	NULL	NULL
15	Billy52	2016-10-05 14:10:20	NULL	NULL	NULL	NULL

Contest Winner Declaration: The team has organized a contest where the user with the most likes on a single photo wins

Your Task: Determine the winner of the contest and provide their details to the team.

INPUT QUERIES:

```
select user_id,count(photo_id)as cnt from likes
group by user_id
select user_id,count(photo_id)as cnt from likes
group by user_id
order by cnt desc
select user_id from
(select user_id,count(photo_id)as cnt from likes
group by user_id
order by cnt desc)as a
left join users as b
a.user_id = b.id
select * from users
where id in
(select user_id from
create table max_like as
(select user_id,count(photo_id) as cnt from likes
group by user_id
order by cnt desc)as a)
select * from users as a
left join max_like as b on
a.id = b.user_id
order by cnt desc
```

OUTPUT:

user_id	cnt
21	257
71	257
5	257
66	257
41	257
14	257
57	257
24	257
76	257
75	257
54	257
91	257

id	username	created_at	user_id	cnt
76	Janelle.Nikolaus81	2016-07-21 09:26:09	76	257
24	Maxwell.Halvorson	2017-04-18 02:32:44	24	257
5	Aniya_Hackett	2016-12-07 01:04:39	5	257
54	Duane60	2016-12-21 04:43:38	54	257
71	Nia_Haag	2016-05-14 15:38:50	71	257
66	Mike.Auer39	2016-07-01 17:36:15	66	257
75	Leslie67	2016-09-21 05:14:01	75	257
91	Bethany20	2016-06-03 23:31:53	91	257
14	Jaclyn81	2017-02-06 23:29:16	14	257
57	Julien_Schmidt	2017-02-02 23:12:48	57	257
41	Mckenna17	2016-07-17 17:25:45	41	257
21	Rocio33	2017-01-23 11:51:15	21	257
36	Ollie_Ledner37	2016-08-04 15:42:20	36	257
16	Annalise.McKenzi...	2016-08-02 21:32:46	16	103
96	Keenan.Schamber...	2016-08-28 14:57:28	96	98
69	Karley_Bosco	2016-06-24 23:38:52	69	97

Hashtag Research: A partner brand wants to know the most popular hashtags to use in their posts to reach the most people.

Your Task: Identify and suggest the top five most commonly used hashtags on the platform

INPUT QUERIES:

```
select * from tags as a
left join photo_tags as b
on a.id=b.tag_id

select a.tag_name,count(b.tag_id)as cnt from tags as a
left join photo_tags as b
on a.id=b.tag_id
group by a.tag_name
order by cnt desc
limit 5

select a.tag_name,count(b.tag_id)as cnt from tags as a
left join photo_tags as b
on a.id=b.tag_id
group by a.tag_name
having count(b.tag_id)>30
order by cnt desc limit 8
```

:

OUTPUT:

id	tag_name	created_at	photo_id	tag_id
1	sunset	2024-06-24 22:57:06	14	1
1	sunset	2024-06-24 22:57:06	21	1
1	sunset	2024-06-24 22:57:06	45	1
1	sunset	2024-06-24 22:57:06	75	1
1	sunset	2024-06-24 22:57:06	83	1
1	sunset	2024-06-24 22:57:06	85	1
1	sunset	2024-06-24 22:57:06	91	1
1	sunset	2024-06-24 22:57:06	118	1
1	sunset	2024-06-24 22:57:06	149	1
1	sunset	2024-06-24 22:57:06	194	1
1	sunset	2024-06-24 22:57:06	201	1
1	sunset	2024-06-24 22:57:06	210	1
1	sunset	2024-06-24 22:57:06	216	1
1	sunset	2024-06-24 22:57:06	227	1
1	sunset	2024-06-24 22:57:06	231	1
1	sunset	2024-06-24 22:57:06	233	1

	tag_name	cnt
▶	smile	59
	beach	42
	party	39
	fun	38
	concert	24

	tag_name	cnt
▶	smile	59
	beach	42
	party	39
	fun	38

Ad Campaign Launch: The team wants to know the best day of the week to launch ads.

Your Task: Determine the day of the week when most users register on Instagram. Provide insights on when to schedule an ad campaign.

INPUT QUERIES:

```
select week(created_at) as wk ,
count(week(created_at))as cnt from users
group by wk
order by cnt desc
limit 5;
```

OUTPUT:

	wk	cnt
▶	6	5
	18	5
	27	4
	40	4
	13	4

B) Investor Metrics:

User Engagement: Investors want to know if users are still active and posting on Instagram or if they are making fewer posts

Your Task: Calculate the average number of posts per user on Instagram. Also, provide the total number of photos on Instagram divided by the total number of users.

INPUT QUERIES:

```
select b.user_id,avg(a.id) from users as a
left join photos as b
on a.id=b.user_id
group by b.user_id
```

OUTPUT:

	user_id	avg(a.id)
▶	1	1.0000
	2	2.0000
	3	3.0000
	4	4.0000
	NULL	54.1923
	6	6.0000
	8	8.0000
	9	9.0000
	10	10.0000
	11	11.0000
	12	12.0000
	13	13.0000

Bots & Fake Accounts: Investors want to know if the platform is crowded with fake and dummy accounts.

Your Task: Identify users (potential bots) who have liked every single photo on the site, as this is not typically possible for a normal user.

INPUT QUERIES:

```
SELECT count(image_url)/count(a.id) as avg1 from users as a
left join photos as b
on a.id=b.user_id
group by b.user_id

select count(id) from users

select count(image_url) from photos
```

OUTPUT :

	avg1
▶	1.0000
	1.0000
	1.0000
	1.0000
	0.0000
	1.0000
	1.0000

	count(id)
▶	100

	count(image_url)
▶	257